

Amendments to the Claims:

This listing of the claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1 (Previously Presented): A fuel cell assembly comprising:

a fuel cell having first and second oxygen electrodes, a hydrogen electrode and an electrolyte membrane disposed between the hydrogen electrode and the first and second oxygen electrodes;

a hydrogen gas channel for supplying fuel gas containing hydrogen to the hydrogen electrode, the hydrogen gas channel facing the hydrogen electrode;

a first oxidant gas channel for supplying oxidant gas to the first oxygen electrode, the first oxidant gas channel facing the first oxygen electrode;

a second oxidant gas channel for supplying the oxidant gas which has passed through the first oxidant gas channel to the second oxidant electrode, the second oxidant channel facing the second oxygen electrode;

and a dehumidifier for dehumidifying the oxidant gas which has passed through the first oxidant gas channel, the dehumidifier being disposed downstream of the first oxidant gas channel and upstream of the second oxidant gas channel.

2 (Previously Presented): The fuel cell assembly as defined in Claim 1, further comprising a humidifier for humidifying oxidant gas to be supplied to the first oxidant gas channel, the humidifier applying water removed by the dehumidifier to the oxidant gas to be supplied to the first oxidant gas channel.

3 (Previously Presented): The fuel cell assembly as defined in Claim 2, wherein the dehumidifier and the humidifier constitute an integrated humidity regulation module, the humidity regulation module comprising a humid air passage, a dry air passage and a water permeable membrane between the humid air passage and the dry air passage, the water permeable membrane allowing movement of water from the humid air passage to the dry air passage,

and wherein the oxidant gas which has passed through the first oxidant gas channel further passes through the humid air passage and the oxidant gas to be supplied to the first oxidant gas channel passes through the dry air passage.

4 (Previously Presented): The fuel cell assembly as defined in Claim 3, wherein the integrated humidity regulation module is directly connected to a side surface of the fuel cell so as to serve as an air manifold directly connected to the first and second oxidant gas channels, the side surface is substantially parallel to a direction of lamination of the fuel cell.

5 (Previously Presented): The fuel cell assembly as defined in Claim 4, wherein the humidity regulation module comprises a plurality of water permeable membranes each of which is a hollow fiber and the density of the plurality of water permeable membranes decreases away from the fuel cell.

6 (Previously Presented): The fuel cell assembly as defined in Claim 4, further comprising an air supply passage connected between the first oxidant gas channel and the dry air passage of the humidity regulation module and a fuel gas manifold for collecting fuel gas from the fuel gas channel, wherein the air supply passage is integrated with the fuel gas manifold.

7 (Previously Presented): The fuel cell assembly as defined in Claim 3, wherein a pressure regulation valve is provided between an inlet of the humid air passage and an outlet of the dry air passage.

8 (Previously Presented): The fuel cell assembly as defined in Claim 7, further comprising a controller for controlling an opening of the pressure regulation valve in response to power required by the fuel cell.

9 (Previously Presented): The fuel cell assembly as defined in Claim 1, further comprising a humidifier for humidifying the fuel gas containing hydrogen to be supplied to the hydrogen gas channel, the humidifier applying water removed by the dehumidifier to the fuel gas to be supplied to the hydrogen gas channel.

10 (Previously Presented): The fuel cell assembly as defined in Claim 9, wherein the humidifier and the dehumidifier constitute an integrated humidity regulation module, and the humidity regulation module comprises a humid air passage, a dry fuel gas passage and a water permeable membrane between the humid air passage and the dry fuel gas passage, the water permeable membrane allowing movement of water from the humid air passage to the dry fuel gas passage,

and wherein the oxidant gas which has passed through the first oxidant gas channel further passes through the humid air passage and the fuel gas to be supplied to the hydrogen gas channel passes through the dry fuel gas passage.

11 (Previously Presented): The fuel cell assembly as defined in Claim 1, wherein the first oxidant gas channel is positioned on a downstream side with respect to the flow of the fuel gas and the second oxidant gas channel is positioned on an upstream side with respect to the flow of the fuel gas.

12 (Previously Presented): The fuel cell assembly as defined in Claim 1, wherein fuel gas flows in the hydrogen gas channel in a substantially vertically downward direction.

13 (Previously Presented): The fuel cell assembly as defined in Claim 12, wherein oxidant gas flows in a substantially horizontal direction in the first and second oxidant gas channels.

14 (Previously Presented): The fuel cell assembly as defined in Claim 1, wherein the first oxygen electrode facing the first oxidant gas channel and the second oxygen electrode facing the second oxidant gas channel are physically separate.

15 (Previously Presented): The fuel cell assembly as defined in Claim 1, wherein the first oxygen electrode facing the first oxidant gas channel and the second oxygen electrode facing the second oxidant gas channel are physically connected.

16 (Previously Presented): The fuel cell assembly as defined in Claim 14, wherein the first oxygen electrode is electrically connected to a first power regulation element and the second oxygen electrode is electrically connected to a second power regulation element, the first and second power regulation element are electrically connected to a positive terminal.

17 (Canceled)

18 (New): A fuel cell system comprising:

the fuel cell assembly as defined in claim 1;

a fuel gas supply device for supplying the fuel gas containing hydrogen to the hydrogen gas channel; and

an air supply device for supplying the oxidant gas to the first oxidant channel.